

### REMARKS

In accordance with the foregoing, claims 1-5 and 19-20 have been canceled without prejudice or disclaimer. Claims 6-18 are pending and under consideration.

#### Response to Election of Invention

Applicants elect Group III, which corresponds to claims 6-8, in response to the Election of Invention Requirement set forth in the Office Action with traverse.

In regard to Group IV, Applicants respectfully submit that claims 9-18 (Group IV) are so closely related to elected claims 6-8 (Group III) that the Group IV claims should remain in the same application with the Group III claims.

Claims 1-5 (Groups I and II) and claims 19-20 (Group V) have been canceled without prejudice or disclaimer.

The elected claims 6-8 are generally directed to a method for diagnosing a liver disease in which a monoclonal antibody which reacts only with asialo  $\alpha$ 1-acid glycoprotein and excludes heptoglobin and  $\alpha$ 2-macroglobulin; and lectin RCA (*Ricinus communis* agglutinin) recognizing asialo glycoprotein are reacted with a test sample to measure the amount of asialo  $\alpha$ 1-acid glycoprotein (AsAGP).

The claims 9-18 (Group IV) are generally directed to:

a diagnostic strip for immunochromatography which comprises a monoclonal antibody reacting only with asialo  $\alpha$ 1-acid glycoprotein excluding heptoglobin and  $\alpha$ 2-macroglobulin; and RCA recognizing asialo glycoprotein as a lectin; and reacts a test sample at over 1.50  $\mu$ g/ml of asialo  $\alpha$ 1'-acid glycoprotein to detect a liver disease;

a diagnostic strip for immunochromatography which comprises a monoclonal antibody reacting only with asialo  $\alpha$ 1-acid glycoprotein excluding heptoglobin and  $\alpha$ 2-macroglobulin; and RCA recognizing asialo glycoprotein as a lectin; and reacts a test sample at over 1.50  $\mu$ g/ml of asialo  $\alpha$ 1'-acid glycoprotein to detect a liver disease, in which the monoclonal antibody is As 16.89 deposited with the accession number KCTC 10261 BP;

a diagnostic strip for immunochromatography which comprises a monoclonal antibody reacting only with asialo  $\alpha$ 1-acid glycoprotein excluding heptoglobin and  $\alpha$ 2-macroglobulin; and RCA recognizing asialo glycoprotein as a lectin; and reacts a test sample at over 1.50  $\mu$ g/ml of

asialo  $\alpha$ 1'-acid glycoprotein to detect a liver disease, in which the monoclonal antibody is conjugated with a micro-particle such as colloid type gold particle;

a diagnostic strip for immunochromatography which comprises a monoclonal antibody reacting only with asialo  $\alpha$ 1-acid glycoprotein excluding heptoglobin and  $\alpha$ 2-macroglobulin; and RCA recognizing asialo glycoprotein as a lectin; and reacts a test sample at over 1.50  $\mu$ g/ml of asialo  $\alpha$ 1'-acid glycoprotein to detect a liver disease, which comprises (1) glass fiber (GF) coated with micro-particles conjugated with the monoclonal antibody; (2) nitrocellulose membrane (NC) including a standard line and a diagnostic line to detect a glycoprotein; (3) a sample pad for a test sample; (4) a absorbent pad for non-reactive substance; and (4) an adhesive plastic backing for mounting above-mentioned members;

a diagnostic strip for immunochromatography which comprises a monoclonal antibody reacting only with asialo  $\alpha$ 1-acid glycoprotein excluding heptoglobin and  $\alpha$ 2-macroglobulin; and RCA recognizing asialo glycoprotein as a lectin; and reacts a test sample at over 1.50  $\mu$ g/ml of asialo  $\alpha$ 1'-acid glycoprotein to detect a liver disease, in which NC membrane, GF membrane, a sample pad and a absorbent pad are partially overlaid on said adhesive plastic backing in due turn to transfer substance by capillary reaction and an RCA band as a diagnostic line and an antibody band as a standard line are separated in some interval;

a diagnostic strip for immunochromatography which comprises a monoclonal antibody reacting only with asialo  $\alpha$ 1-acid glycoprotein excluding heptoglobin and  $\alpha$ 2-macroglobulin; and RCA recognizing asialo glycoprotein as a lectin; and reacts a test sample at over 1.50  $\mu$ g/ml of asialo  $\alpha$ 1'-acid glycoprotein to detect a liver disease, in which said test sample is blood or serum 10-folds diluted by using an elution buffer;

a diagnostic strip for immunochromatography which comprises a monoclonal antibody reacting only with asialo  $\alpha$ 1-acid glycoprotein excluding heptoglobin and  $\alpha$ 2-macroglobulin; and RCA recognizing asialo glycoprotein as a lectin; and reacts a test sample at over 1.50  $\mu$ g/ml of asialo  $\alpha$ 1'-acid glycoprotein to detect a liver disease, in which said elution buffer is 50 mM of borate buffer containing 5% sucrose, 1% bovine serum albumin or 1% Triton X-100;

a diagnostic strip for immunochromatography which comprises a monoclonal antibody reacting only with asialo  $\alpha$ 1-acid glycoprotein excluding heptoglobin and  $\alpha$ 2-macroglobulin; and RCA recognizing asialo glycoprotein as a lectin; and reacts a test sample at over 1.50  $\mu$ g/ml of asialo  $\alpha$ 1'-acid glycoprotein to detect a liver disease, in which a standard line and a diagnostic

line are colored on said strip to indicate positive for a hepatic disease;

a diagnostic strip for immunochromatography which comprises a monoclonal antibody reacting only with asialo  $\alpha$ 1-acid glycoprotein excluding heptoglobin and  $\alpha$ 2-macroglobulin; and RCA recognizing asialo glycoprotein as a lectin; and reacts a test sample at over 1.50  $\mu$ g/ml of asialo  $\alpha$ 1'-acid glycoprotein to detect a liver disease, which is a cassette type; and

a diagnostic strip for immunochromatography which comprises a monoclonal antibody reacting only with asialo  $\alpha$ 1-acid glycoprotein excluding heptoglobin and  $\alpha$ 2-macroglobulin; and RCA recognizing asialo glycoprotein as a lectin; and reacts a test sample at over 1.50  $\mu$ g/ml of asialo  $\alpha$ 1'-acid glycoprotein to detect a liver disease, which is a stick type.

Hence, it is clear that claims 6-8, as well as claims 9-18, of the present invention are based on a method of detecting, or a diagnostic strip for immunochromatography of, asialo  $\alpha$ 1-acid glycoprotein.

Song et al. was recited as disclosing a monoclonal antibody to asialo  $\alpha$ 1-acid glycoprotein for use in immunoassay to detect asialoglycoproteins in serum, but no other references have been recited requiring Applicants to elect an invention. Applicants respectfully submit that the Examiner can search for references in the same field of technology for Group III and Groups IV claims. Applicants also respectfully note that the Examiner has not identified different classifications for performing a search of the prior art.

Accordingly, Applicants respectfully submit that evaluation of claims 6-8 and 9-18 would not place an undue burden upon the Examiner at this time. However, the election of invention does place an unnecessary burden of additional expense and delay on the Applicant to prosecute the additional subject matter recited by the Group IV claims (claims 9-18) by filing a divisional application.

#### Summary

Claims 6-8 and 9-18 are pending and under consideration. It is respectfully submitted that the cited reference does not disclose the present claimed invention.

There being no further outstanding objections or rejections, it is submitted that the application is in condition for allowance. An early action to that effect is courteously solicited.

Finally, if there are any formal matters remaining after this response, the Examiner is requested to telephone the undersigned to attend to these matters.

If there are any additional fees associated with filing of this Response, please charge the same to our Deposit Account No. 19-3935.

Respectfully submitted,

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